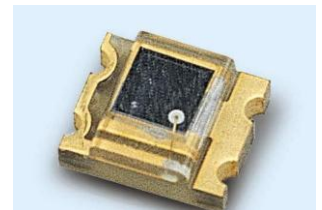


Technical Data Sheet Silicon PIN Photodiode PD15-22C/TR8

Features

- Fast response time
- High photo sensitivity
- Small junction capacitance
- Pb free
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH.
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm)



Description

• PD15-22C/TR8 is a high speed and high sensitive. PIN photodiode in miniature flat top view lens SMD package and it is molded in a black plastic. The device is Spectrally matched to visible and infrared emitting diode.

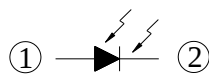
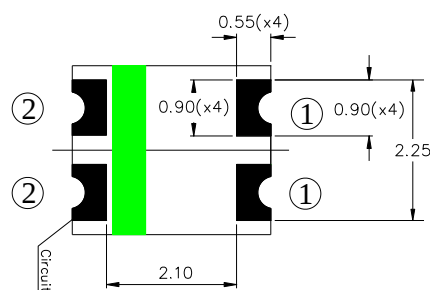
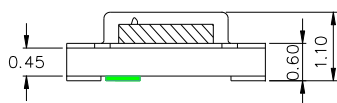
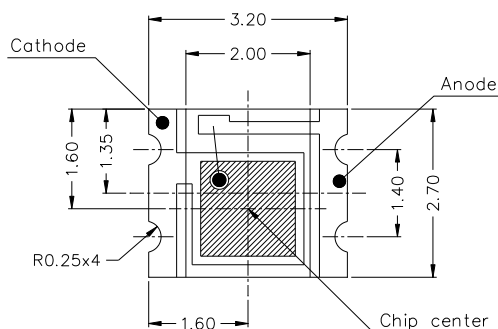
Applications

- High speed photo detector
- Copier
- Game machine

Device Selection Guide

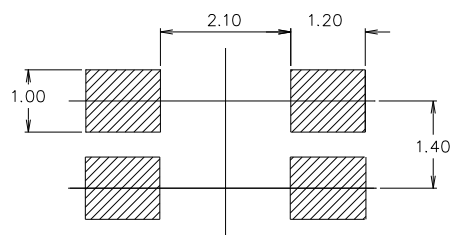
Device No.	Chip Material	Lens Color
PD15-22C/TR8	Silicon	Water clear

Package Dimensions



- ① Anode
② Cathode

For reflow soldering (propose)



Absolute Maximum Ratings (Ta=25°C)

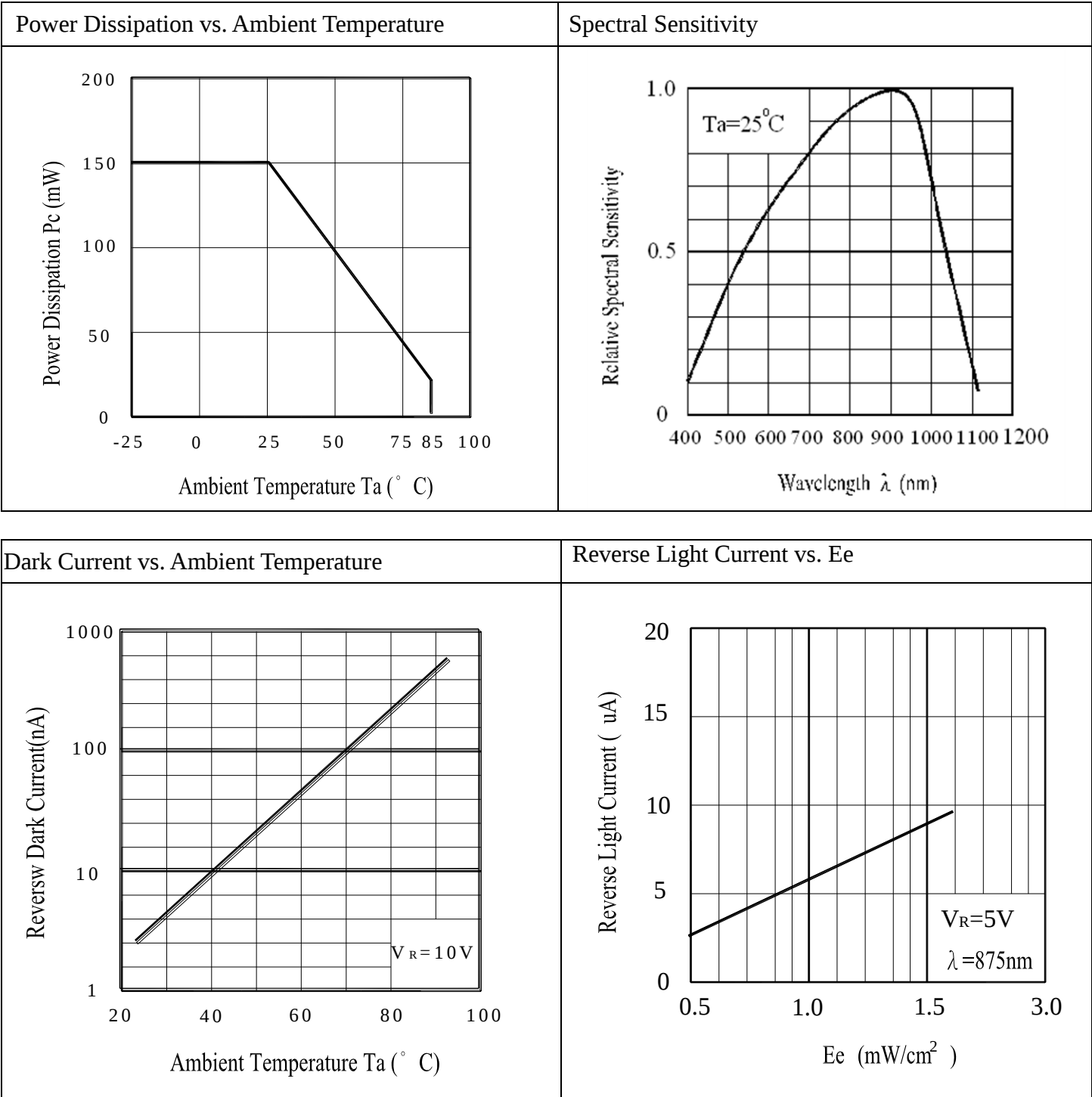
Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	32	V
Operating Temperature	T_{opr}	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Soldering Temperature *1	T_{sol}	260	°C
Power Dissipation at(or below)	P_c	150	mW

Notes: *1:Soldering time ≤ 5 seconds.

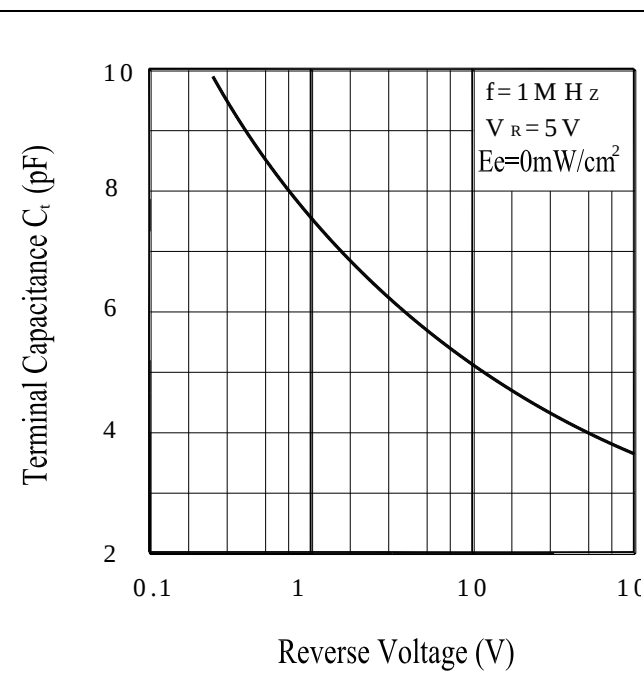
Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Rang Of Spectral Bandwidth	λ	400	---	1100	nm	10% of λ_p
Wavelength Of Peak Sensitivity	λ_p	---	940	---	nm	---
Open-Circuit Voltage	V_{OC}	---	0.41	---	V	Ee=5mW/cm ² λ_p =940nm
Short-Circuit Current	I_{SC}	4.0	6.5	---	μA	Ee=1mW/cm ² λ_p =875nm
Reverse Light Current	I_L	4.2	6.5	---	μA	Ee=1mW/cm ² λ_p =875nm V_R =5V
Dark Reverse Current	I_D	---	---	10	nA	Ee=0mW/cm ² V_R =10V
Reverse Breakdown Voltage	B_{VR}	32	170	---	V	Ee=0mW/cm ² I_R =100 μA
Rise Time	t_r	---	10	---	nS	V_R =5V R_L =1000 Ω
Fall Time	t_f	---	10	---		

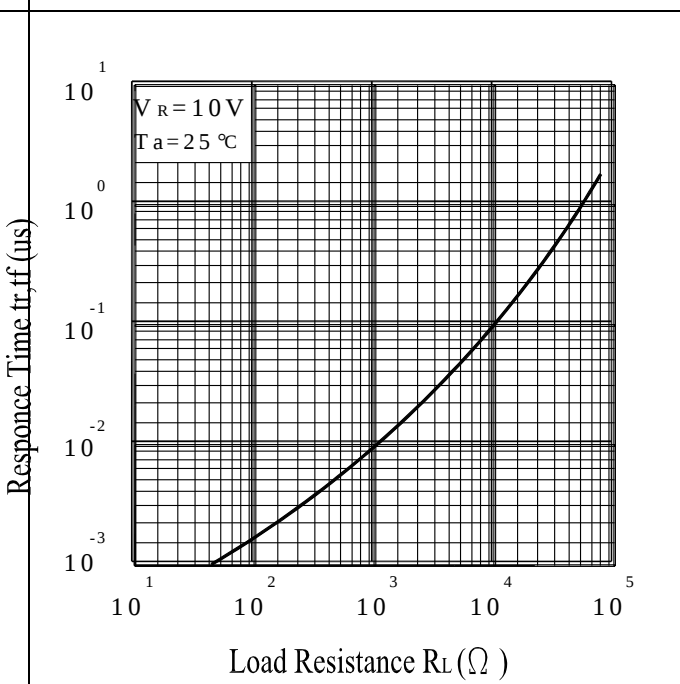
Typical Electrical/Optical/Characteristics Curves



Terminal Capacitance vs. Reverse Voltage



Response Time vs. Load Resistance



● Precautions For Use

1. Over-current-proof

Customer must apply resistors for protection , otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

2.1 Do not open moisture proof bag before the products are ready to use.

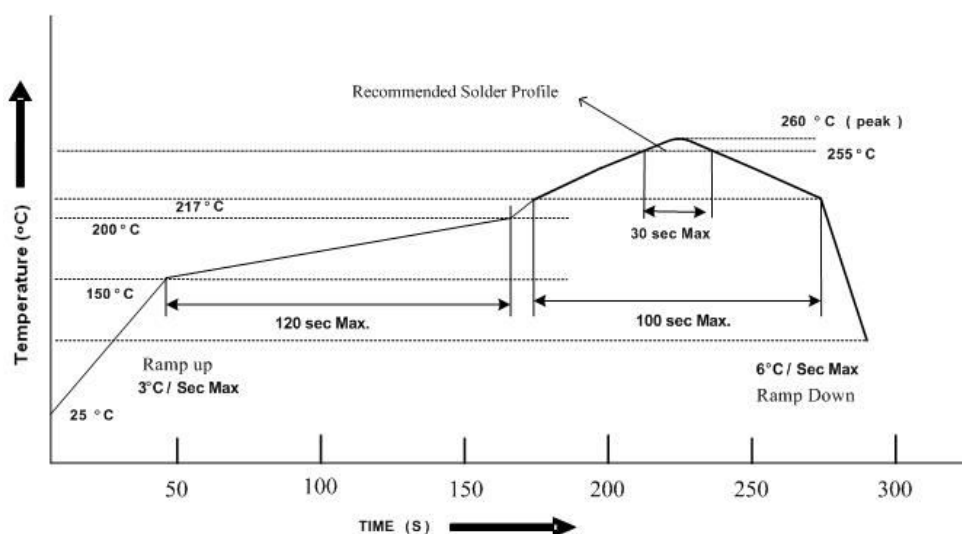
2.2 Shelf life in sealed bag from the bag seal date: 12 months at $< 40^{\circ}\text{C}$ and $< 90\% \text{ RH}$.

2.3 After opening the package, the LEDs must be kept at $\leq 30^{\circ}\text{C}$ and $\leq 60\% \text{ RH}$, and used within a year.

2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time. Baking treatment is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the conditions : $60 \pm 5^{\circ}\text{C}$ for Min 24 hours.

3. Soldering Condition

3.1 Pb-free solder temperature profile



3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the LEDs during heating.

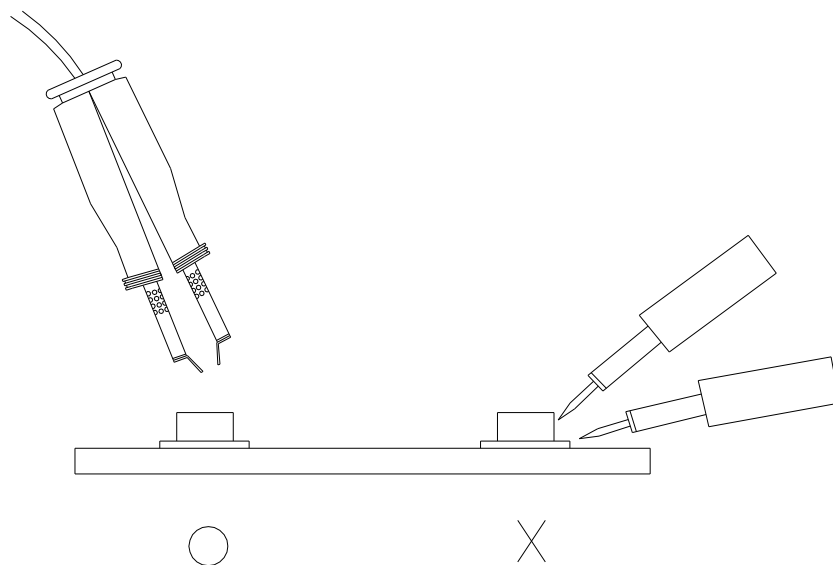
3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



Technical drawing of a circular mechanical part, showing a top view and a side view. The top view is a circle with a central feature and four curved slots. The side view shows the thickness of the part.

Top View Dimensions:

- Overall diameter: $\phi 178.0 \pm 1.0$
- Inner diameter (dashed circle): $\phi 60.0 \pm 0.5$
- Radius of the central feature: 2.2 ± 0.5
- Radius of the central feature (bottom): $\phi 13.0 \pm 0.5$

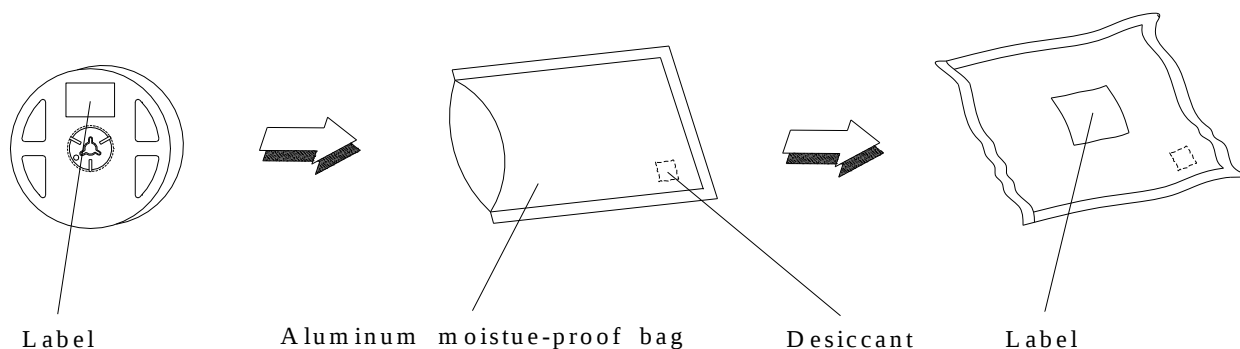
Side View Dimensions:

- Overall thickness: 9.0 ± 0.5
- Thickness of the central feature: 12.0 ± 0.15

2. Carrier Tape Dimensions:(Quantity: 3000pcs/reel)



Packing Procedure



Label Form Specification

EVERLIGHT

CPN :
P/N : XXXXXXXXXXXX
XXXXXXXXXXXX

QTY : XXX
CAT : XXX
HUE : XXX
REF : XXX

LOT NO : XXXXXXXXXX

Reference : XXXXXXXX

MADE IN TAIWAN

CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks

HUE: Peak Wavelength

REF: Reference

LOT No: Lot Number

MADE IN TAIWAN: Production Place

Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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